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ABSTRACT

The Young Children's Self-Concept Scale, a 40-item revision of the Piers-Harris Children's Self Concept Scale, was designed specifically for young children. Its validity was investigated by comparing self concept scores to teachers' ratings of self concept. The sample included twenty teachers and 459 students in grades 1-4. Factor analyses were conducted according to age (grades 1-2 and grades 3-4) and sex of student. Correlation coefficients between teacher rankings and self concept scores ranged from -.01 to .58, with a median correlation of .32. Factor analyses examining maturational differences generated 13 factors for grades 1-2 and 14 factors for grades 3-4. Three factors were important in both age groups: (1) body image; (2) student behavior, particularly troublesome behavior; and (3) feelings of adequacy and happiness. These factors also accounted for 55% of the total variance for each sex. Further examination indicated sex differences in responses to seven of the 40 test items. It was concluded that the Young Children's Self-Concept Scale provided reliable measurements at the primary level, and that self concept factor structure was remarkably consistent between sexes and grade levels. (GDC)

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# ELEMENTARY CHILDREN'S SELF-CONCEPTS

# FACTOR STRUCTURES AND TEACHER RATINGS

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Elementary Children's Self-Concepts,

Factor Structures and Teacher Ratings


## Abstract

This is a validity study of a downward revision of the Piers-Harris Self-Concept Scale. Test scores from the self-concept instrument were related to teacher ratings of their pupils. In addition, factor analyses were used to study the patterning of responses at two maturational levels (grades 1-2 and grades 3-4), and for males and females.

Elementary Children's Self Concepts,

Factor Structures and Teacher Ratings

Wylie (1961) concludes her comprehensive review of self-concept methodology by suggesting two alternatives: ". . .abandon theorizing and research involving self-referent constructs, or make whatever theoretical and methodological improvements that are necessary in order to put such work on a more respectable scientific base." Among the methodological steps necessary, Wylie points to the gradual evolution and refinement of instruments using standard psychometric techniques. This study is set within Wylie's recommendations and is designed to further efforts to measure self-concept in the age range of 6 to 10 years.

This work is an extension of earlier efforts (McDaniel, et al., 1973) to develop a self-concept scale for young children. This effort culminated in a 40-item revision of the well-known Piers-Harris Self-Concept Scale (1969). The Young Children's Self-Concept Scale correlated .23 with reading achievement and .42 with mathematics achievement on a sample of 137 first grade pupils enrolled in inner city schools. This scale was factor analyzed by Denner (1975). The scale was subsequently standardized on over 2,000 children from seven geographical areas. It has also been used as a dependent variable in studies of teaching behavior (McDaniel, 1976) and in studies of the effects of parental attitudes on self-concept (McDaniel, Ball and Fortunata, 1978). Both of these studies,

however, have been conducted with disadvantaged children and with samples having a large proportion of Blacks. Additionally, little validity information is available.

This study is designed to test the validity of the new scale against a criterion of teacher's ratings of the children's self-concepts. In addition, the factor structure of self-concept measured with this instrument will be examined for maturational and sex effects.

The study is designed to answer four primary questions:

1. Do teacher's ratings correspond to the self-concept scores of their pupils?
2. Does the factor structure of self-concept differ with maturational levels within the age-range studied?
3. Does the factor structure of self-concept differ for boys and girls?
4. Do particular items reveal sex and/or maturational trends that suggest new questions or lines of research?

## Procedure

All teachers of grades one through four in a mid-western elementary school were asked to rank their pupils from high to low on self-concept. Teachers were provided with written instructions for ranking and with guide-lines designed to provide a common understanding of the notion of self-concept. Following this procedure, teachers administered the Young Children's Self-Concept Scale. Each item was read orally to the class and pupils responded by circling "yes" or "no" on their answer sheets.

Twenty teachers participated in the study. One teacher had a split class, thus bringing the total number of class groups studied to 21. A total of 459 pupils participated in the study: 103 in grade 1, 118 in grade 2, 114 in grade 3, and 124 in grade 4. There were 224 boys and 235 girls.

The population served by the school is essentially white, middle class and devided among residents of suburban and rural areas.

Three procedures were used in analyzing the data. First, Pearson Product Moment correlation coefficients were computed between the teachers' ranks and the children's self-concept scores for each class. Second, a factor analysis was performed with first and second grade pupils combined and third and fourth grade pupils combined. Factor analysis was also performed for all girls combined across grades and all boys combined across grades. A SPSS program providing a principal factors analysis with varimax rotation and Kaiser normalization (Nie, Hull, Jenkins, Steinbrenner and Bent, 1975) was used for all factor studies.

## Results

Mean self-concept scores for each of 21 classes were not significantly different from those of the standardization sample. The mean score for the first grades was 28.19 (SD = 6.58), for second grades 28.20 (SD = 6.68), for third grades 28.68 (SD = 6.78), and for fourth grades 26.39 (SD = 7.50).

The Kuder-Richardson formula 20 reliability coefficients ranged from .72--.92. For first grades the median coefficient was .83, for second grades .83, for third grades .87, and for fourth grades .87.

The correlation coefficients between teacher rankings and self-concept scores are presented in Table 1. The correlations range from

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a low of -.01 to a high of .58, with a median correlation of .32. Ten of the 21 correlations are significant at or beyond the .05 level of significance. The pattern of significant correlations is not associated in any systematic way with the grade level taught by the teacher.

The results of the factor studies examining maturational differences are presented in Table 2. The factor analyses generated 13 factors for grades 1 and 2 and 14 factors for grades 3 and 4. Table 2 presents the factor loadings for the first three factors for these two groups.

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Inspection of Table 2 reveals essentially three similar factors for the two maturational levels. Body image is clearly the first factor for both the younger primary children and for the older primary children. This factor accounts for over a third of the variance for both groups. The second factor for the younger children is a group of items focusing on behavior, particularly the kinds of behavior likely to be viewed as troublesome. The third factor for the younger group is related to a cluster of feelings related to adequacy and happiness.

Children in the older group (grades 3 and 4) have the second and third factors reversed. Factor two for the older children is feelings of happiness-unhappiness coupled with feelings of acceptance and rejection. The third factor for the older children is the behaving factor, with hostile and pugnacious behavior playing a large role.

The results of the factor studies examining sex differences are presented in Table 3. Again, the factor analyses produced 14 factors for the boys and 13 factors for the girls before accounting for all of the variance in the self-concept scale. For each sex, the first three factors accounted for approximately 35 percent of the total variance. The loadings for these factors are presented in Table 3.

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Inspection of Table 3 reveals essentially the same three factors as those identified in Table 2. Again, there is some difference in order of the second and third factor for the boys and girls.

The first factor for both sexes is body image and this factor accounts for a little over a third of the variance for both sexes. The second factor for girls is a behaving factor centering around behaviors which are troublesome, often in the family setting. For boys, the second factor is a feeling factor related to social acceptance, family acceptance and happiness. The third factor for girls is a feeling factor with a strong social componant. The third factor for boys is a behavior factor centering around the way behavior is viewed in the home, i.e., troublesome or trouble free.

It may be noted that the similarity among the factors discussed above comes about not so much because the items identifying the factor are common across groups, but because the content of the identifying items is sufficiently similar to warrant the assertion that common factors are found in the separate groups examined.

To further discriminate among children's patterns of responses, individual self-concept items were examined. Chi-square analyses were performed, constructing 2 x 4 tables which illustrated the percentages of boys responding "yes" or "no" to items (2) by each grade level (4). Identical tables were constructed for girls.

Among items in the "body image" factors, the percentage of boys responding to "I have pretty eyes" showed a steady decline from first to fourth grades. There was no significant change in the percentage of girls responding at any grade level. Similarly, when comparing first and fourth grade boys, there was a significant decrease in responding to "I have nice hair." Older primary boys, those in third and fourth grades, reported a significant increase in response to "I am strong," while the trend for girls showed a steady decline.

For items in the "behavior" factor, significantly higher percentages of boys than girls responded to "I get into lots of fights," regardless of grade level. Boys responding to "I am mean to the other children in my family" showed a significant decrease when first and fourth grade boys were compared. Boys' responses to "I am an important member of my class," increased significantly from first to fourth grade. There was

a trend from first to fourth grade for progressively more girls than boys to respond positively to the statement "My classmates like the things I think up."

Looking at the above response patterns, seven of the 40 test items contained sex differences. The boys' "body image" factor generally showed a decline in response to items regarding pretty eyes and nice hair, while steadily increasing in response to "I am strong." The boys' "behaving self" factor indicates a higher percentage of boys than girls responding to fighting, but as boys get older they respond also to more appropriate peer interactions. Girls responded in greater percentages than boys to "My classmates like the things I think up."

## Discussion and Summary

The major findings of this study relate to the correlations among teacher ranks and self-concept scores, and to the factor analyses.

The correlations among teacher ranks and self-concept scores do not provide overwhelming evidence for or against the validity of the instrument. With half of the correlations significant and half not, no clear trend is evident. It may be taken as a positive sign that correlations as high as .58 were obtained at all, given that the teachers notions of self-concept were not isomorphic with the scale and that the scale itself contains a fair number of items related to internal feelings which might or might not be translated into behavior that could be observed by the teachers.

The factor analyses procedures revealed no striking differences for maturational level or sex in the factor structure of the scale. Body image, behaviors and feelings were represented as the three major factors associated with this instrument and the next logical step would be to generate factor scores based on the analyses and correlate the factor scores with teacher ratings. This procedure would provide some information about the facets of the person most influencial in forming teacher judgements of self-concept.

Analyses of the individual items of the scale provided no surprises and the sex differences in responses seem to follow lines suggested by the differential socialization of males and females in our culture.

On the whole, the data suggest that the Young Children's Self-Concept Scale provides reliable measurements at the primary grade level, and and that the factor structure is remarkably consistant between sexes and across the first four years of school.

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TABLE 1

Correlation of Teacher Rankings and
Student Self-Concept Scores

| | TEACHER | CLASS N | r |
|---|---|---|---|
| 1st Grade | 1 | 24 | .58** |
| | 2 | 25 | .45** |
| | 3 | 21 | .15 |
| | 4 | 13@ | .48* |
| | 5 | 20 | .57** |
| 2nd Grade | 1 | 22 | .24 |
| | 2 | 25 | -.01 |
| | 3 | 14 | .42 |
| | 4 | 06@ | .07 |
| | 5 | 26 | .32* |
| | 6 | 25 | .30 |
| 3rd Grade | 1 | 28 | .14 |
| | 2 | 27 | .33* |
| | 3 | 11 | .31 |
| | 4 | 20 | .46* |
| | 5 | 28 | .41** |
| 4th Grade | 1 | 24 | .17 |
| | 2 | 25 | .33* |
| | 3 | 24 | .44** |
| | 4 | 27 | .21 |
| | 5 | 24 | .26 |

@ Split-Class

Sig. * .05, one-tailed test

Sig. ** .01, one-tailed test

Table 2
Factor Loadings at Each of Two Maturational Levels

| | Item | Grades 1 and 2 Combined | | | Grades 3 and 4 Combined | | |
|---|---|---|---|---|---|---|---|
| | | Factor 1 | Factor 2 | Factor 3 | Factor 1 | Factor 2 | Factor 3 |
| | Percent of Variance: | 35% | 12% | 8% | 38% | 10% | 8% |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | cause trouble to family | | .50 | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | important members of family | .38 | | | | | |
| 9 | | | | | | | |
| 10 | good in schoolwork | | | -.35 | | | -.32 |
| 11 | do many bad things | | .53 | | | | |
| 12 | behave well at home | | -.58 | | | | |
| 13 | | | | | | | |
| 14 | pretty eyes | .62 | | | .52 | | |
| 15 | mean to kids in family | | | | | | .59 |
| 16 | | | | | | | |
| 17 | often get into trouble | | .60 | | | | |
| 18 | often upset | | | .32 | | | |
| 19 | | | | | | | |
| 20 | nice hair | .79 | | | .64 | | |
| 21 | nice face | .68 | | | .81 | | |
| 22 | often mean to other people | | .31 | | | | .60 |
| 23 | classmates like things I think up | | | | .34 | | |
| 24 | goodlooking | .67 | | | .67 | | |
| 25 | get into lots of fights | | | .38 | | | .55 |
| 26 | good reader | | | -.58 | | | |
| 27 | | | | | | | |
| 28 | classmates make fun of me | | | | | .59 | |
| 29 | | | | | | | |
| 30 | among the last to be chosen | | | | | .45 | |
| 31 | lucky | .38 | | | | -.62 | |
| 32 | | | | | | | |
| 33 | happy | | | .47 | | -.46 | |
| 34 | family disappointed in me | | | .41 | | .60 | |
| 35 | wish I were different | | | | | | |
| 36 | smart | | | -.35 | | | |
| 37 | want own way most of time | | .35 | | | | |
| 38 | | | | | | | .34 |
| 39 | try make something, all goes wrong | | | | | | |
| 40 | always dropping or breaking things | | | .45 | | .32 | |

Table 3
Factor Loadings for Girls and Boys

| Item | Girls | | | Boys | | |
|---|---|---|---|---|---|---|
| Percent of Variance: | Factor 1 37% | Factor 2 11% | Factor 3 8% | Factor 1 35% | Factor 2 11% | Factor 3 8% |
| often blamed when something goes wrong | | | .39 | | | |
| cause trouble to family | | .44 | | | | .30 |
| important members of family | .36 | | | | | |
| do many bad things | | .37 | | | | .61 |
| behave well at home | | -.59 | | | | -.62 |
| pretty eyes | .51 | | | | | |
| mean to kids in family | | .46 | | .49 | | |
| often get into trouble | | .52 | | | | |
| often upset | | | .46 | | | .47 |
| feel left out of things | | | .53 | | | |
| nice hair | .76 | | | .65 | | |
| nice face | .71 | | | .79 | | |
| classmates like things I think up | | | | | | |
| goodlooking | .62 | | | .36 | | |
| | | | | .76 | | |
| classmates make fun of me | | | .48 | | | |
| hard to make friends | | | .49 | | .63 | |
| among the last to be chosen | | | .30 | | | |
| lucky | .42 | | | | .61 | |
| | | | | | -.57 | |
| happy | | | | | | |
| family disappointed in me | | | | | -.44 | |
| wish I were different | | .35 | | | .37 | |
| | | | | | .31 | |
| want own way most of time | | | | | | |
| | | .38 | | | | |
| try make something all goes wrong | | .30 | | | | |